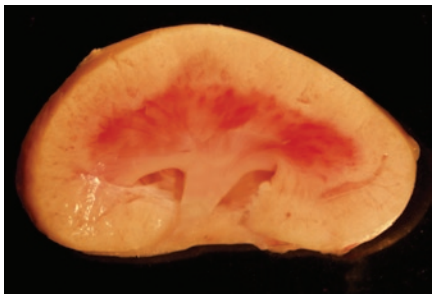
Kidney International (2011) **79,** 261. doi:10.1038/ki.2010.497

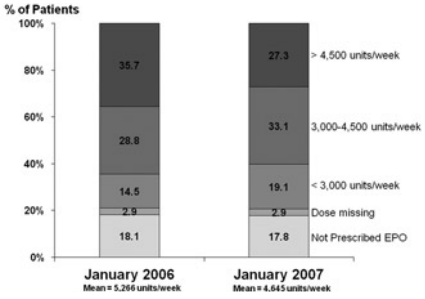
Toll-like receptor in endothelia and acute kidney injury



It is now clear that acute renal failure is associated with an inflammatory response that produces much of the interstitial damage seen in this condition. In this issue, Chen *et al.* report that the expression of Toll-like receptor 4 (TLR4) in the endothelial cells of the vasa rectae was increased after ischemia and reperfusion, probably because of the production of reactive oxygen species seen in this model. Using TLR4 knockout mice, the authors found the expression of the adhesion molecules CD54 and CD62E, which in turn can attract inflammatory cells to the kidney. TLR4 is also expressed in the proximal tubule; hence, the inflammation seen in acute kidney injury is induced by TLR4 activation at multiple levels, in endothelia and in epithelia, each contributing to local inflammation in the cortex and medulla. **See page 288.**

Effect of bundling on erythropoietin use

The introduction of recombinant human erythropoietin (rHuEPO) into the treatment of end-stage renal disease (ESRD) has revolutionized practice. However, as experience increases with its use, a number of issues have come to the fore, including the proper dose and the target of hematocrit that provides the most benefit with the least side effects. A not-so-trivial 'side effect' is the cost of this treatment, quite large considering the size of the target population. Hasegawa *et al.* examined the Japanese experience before and after the institution of a new payment policy for rHuEPO. Before 2006, each dose was billed separately. After that, the Japanese government instituted a bundling policy by which the erythropoietin was made a part of the total ESRD-care bill, producing an interesting effect on physician practice. While the hematocrit and hemoglobin levels before and after the bundling policy were the same, the use of rHuEPO was reduced significantly, by almost 12%, and the use of intravenous iron was increased. **See page 340.**



Serum HCO_3 and progression

There is increasing evidence that correcting the acidosis in chronic kidney disease reduces the progression of renal failure. As they report in this issue, Raphael *et al.* studied a large cohort of patients with kidney disease from the African American Study of Kidney Disease and Hypertension at baseline and durinag follow-up. They found that although the patients' mean serum HCO_3 of 25 mmol/l was within the normal range, there was a remarkable association between reduced risk of death, dialysis, or decreased glomerular filtration rate and an increase in serum HCO_3. Remarkably, the starting serum HCO_3 was normal, and yet the authors observed this significant correlation. Whether this result was causal or not, of course, will need to be determined by a direct test of the hypothesis. **See page 356.**